



## PARTICLE DELIVERY TECHNIQUES

## Abstract of the Disclosure

A method is provided for in vivo or ex vivo delivery of a preparation of powdered nucleic acid molecules into vertebrate tissue for transformation of cells in the tissue using needleless injection techniques. The method can be used to deliver therapeutically relevant nucleotide sequences to cells in mammalian tissue to provide gene therapy, elicit immunity or to provide antisense or ribozyme functions. A method for providing densified processed pharmaceutical compositions is also described. The method is used to convert non-dense pharmaceutical powders or particulate formulations into densified particles optimally suited for transdermal delivery using a needleless syringe. The method is also used to optimize the density and particle size of powders and particulate formulations for subsequent transdermal delivery thereof. Densified pharmaceutical compositions formed by the present methods are also provided.

25

5

10

15

20

30